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09/506,011	02/17/2000	John Cooper Cox	017227-0155	6856

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EXAMINER	
LE, EMILY M	

ART UNIT	PAPER NUMBER
1648	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/506,011	COX ET AL.	
	Examiner	Art Unit	
	EMILY M. LE	1648	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08/19/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,12-17 and 53-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3, 12-17 and 53-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/14/08+10/10/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 2, 4-11 and 18-52 are cancelled. Claims 54-55 are added. Claims 1, 3, 12-17 and 53-55 are pending and under examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcon et al.[1]

In response to the rejection, Applicant argues that Garcon does not teach or even contemplate increasing the negative charge of the liposome so that it is better equipped to attract and electrostatically bind to a positively charged antigen. Applicant also argues that the Office admits, page 6 of the office action, that Garcon does not teach "increasing the positive charge of the antigen". Applicant additionally argues that Garcon et al. convey nothing about any sort of electrostatic interaction between the constituent components of Garcon's vaccine, and that the Office has inappropriately expand the teachings of Garcon et al.

Applicant's arguments have been considered, however, it is not found persuasive. In response to applicant's argument that the references fail to show

certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., ""increasing the positive charge of the antigen") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant is reminded that the rejection is directed at the invention encompassed by claims 53-54. Neither of these claims requires increasing the positive charge of the antigen.

As noted in the rejection, Garcon et al. teaches of a composition comprising liposome that is an organic complex and a positively charged antigen. Garcon et al. also suggests increasing the negative charge of the organic complex to stabilize the organic complex. [Page 2, lines 14-15, in particular.] In the instant case, Garcon et al. clearly provides the suggestion and motivation for one of ordinary skill in the art, at the time the invention was made to increase the negative charge of the organic complex of Garcon et al. It is recognized that Applicant has recognized that the increase in charge leads to the attraction and electrostatic binding of a positively charged antigen, however, this finding, which flow naturally from following the suggestion of the prior art, cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). And, as presented in the rejection, the difference between the claimed invention and the disclosure of Garcon et al. is rendered obvious by the suggestion made by Garcon et al.

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[1] Garcon et al. WO 96/33739, published

Additionally, while Garcon et al. does not expressly convey anything regarding the electrostatic interaction between the positively charged antigen and negative charged organic complex in the composition of Garcon et al., however, following the logic of generally chemistry, it logically follows that the addition of positively charged antigens to a negatively charged organic complex would necessary result in an electrostatic association between the two molecules. Moreover, Applicant is reminded that the "discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable." See MPEP § 2112.

In addition to above, Applicant criticizes the Office for using Applicant's specification and various sources or logic to expound on the teachings of the specification. It also appears that Applicant is arguing that Office uses impermissible hindsight by drawing from Applicant's specification.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Moreover, it should be noted that the claims are interpreted in light of the specification. Thus, the Office use of Applicant's specification to interpret the claims is proper. Additionally, the claims are given its broadest and reasonable interpretation. In the instant case, the use a medical dictionary entry is proper in order to obtain the broadest and reasonable interpretation of the claim. In the instant case, Applicant's broad definition of "electrostatically associated" provides for the inclusion of the inherent electrostatic association between the positively charged antigen and negatively charged organic complex in the composition of Garcon et al.

As presented in the 02/22/2008 office action, the claims are directed to a composition comprising a negatively charged organic complex that is electrostaticially associated with a positively charged antigen, wherein the organic complex is modified to increase the degree of its negative charge and wherein the organic complex comprises saponin and sterol, and that the composition generates a CTL response when administered to a mammal.

Garcon et al. teaches a composition comprising a negatively charged organic complex and a positively charged antigen. The organic complex of Garcon et al., SUV, comprises saponin and sterol. The antigen that Garcon et al. teaches is HSV glycoprotein D (gD). HSV glycoprotein D is positively charged protein, which inherently comprise a peptide region. Additionally, the composition of Garcon et al. also induces a cytotoxic T-lymphocyte response when administered to a mammal. [Pages 10-12, in particular.]

While the organic complex of Garcon et al. has been modified to be negatively charged with the addition of MPL, it should be noted that Garcon et al. recognizes that the addition of charges, negative, to stabilize the organic complex. [Page 2, lines 14-15, in particular.] Thus, at the time the invention was made, it would have been prima facie obvious for one of ordinary skill in the art to vary the negative charge of the organic complex. One of ordinary skill in the art at the time the invention was made would have been motivated to do so to optimize the stability of the organic complex. One of ordinary skill in the art, at the time the invention was made, would have had a reasonable expectation of success for doing so because the determination of a workable or optimal range is routinely practiced in the art.

It is recognized that Garcon et al. does not explicitly state that the organic complex and the antigen are electrostaticially associated, as set forth in the claim. However, it is noted that Applicant defines "electrostaticially associated" as a reference to the organic carrier and the antigen being linked, bound or otherwise associated by means which includes electrostatic interaction. [Paragraph bridging pages 9-10 of the specification.] In the instant, Garcon et al. states that the antigen is entrapped with the organic complex. The entrapment or encapsulation of the antigen and organic complex allows the two components to associate with one another. Thus, the composition of Garcon et al. does comprise an antigen and an organic complex that are "otherwise associated" to one another. Additionally, according to Stedman's Medical dictionary, bound is defined as limited, circumscribed; enclosed. Since encapsulation involves enclosure of the antigen within the organic complex, the composition of Garcon et al.

does comprise an antigen and an organic complex that are bound to one another. Thus, in view of the insight provided by the specification and the broadest and reasonable interpretation for the term "bound", Garcon et al. does teach a composition comprising an antigen and an organic complex that are "electrostaticially associated" with one another. Furthermore, following the logic of generally chemistry, it logically follows that the addition of positively charged antigens to a negatively charged organic complex would necessary result in an electrostatic association between the two molecules. Applicant is reminded that the "discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable." See MPEP § 2112.

4. Claims 1, 3, 12-17 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcon et al.[2] in vie of MacFarlan et al.[3]

In response to the rejection, Applicant refers to the arguments presented and addressed in paragraph 3 of the instant office action. Applicant also argues that one of ordinary skill in the art would not have considered adding negatively charged lipid "to the organic carrier of MacFarlan" in order to "enhance the stability of the organic carrier "because the negatively charged lipid would destroy MacFarlan's uncharged chelation-

[2] Garcon et al. WO 96/33739, published

based system. Applicant continues by arguing likewise, the skilled artisan would not have been prompted to modify Garcon to include MacFarlan chelator moiety. Applicant additionally argues that neither MacFarlan nor Garcon would have informed the person of ordinary skill in the art about increasing the charges of an antigen or complex beyond its natural ionic charge such that a complex is more negatively charged and the antigen is more positively charged than normal, thereby promoting their electrostatic interaction.

Applicant's argument has been considered, however, it is not found persuasive. While Applicant may assert that one of ordinary skill in the art would not have considered adding negatively charged lipid "to the organic carrier of MacFarlan" in order to "enhance the stability of the organic carrier "because the negatively charged lipid would destroy MacFarlan's uncharged chelation-based system; it should be noted that the rejection is not based on the addition of negatively charged lipid of the "organic carrier of MacFarlan". The rejection is based on the suggestion made by MacFarlan et al. To circumvent the difficulty associated with formulating vaccines with proteins or polypeptides using organic complexes due to the difficultly in efficiently incorporating such proteins or polypeptides in immunostimulatory complex matrixes MacFarlan et al. suggests increasing the positive charge of said proteins and polypeptides. In the instant case, MacFarlan et al. provides sufficient reason for one of ordinary skill in the art to increase the positive charge of the antigen in the composition of Garcon et al.

And contrary to Applicant's assertion that neither MacFarlan et al. nor Garcon et al. informed those of ordinary skill in the art about increasing the charges of an antigen

[3] MacFarlan et al. WO 98/36772, published August 27, 1998.

or complex, both MacFarlan et al. and Garcon et al. suggest such increase in charges. As provided in the rejection, MacFarlan et al. suggests increasing the positive charges of antigens and Garcon et al. suggests increasing the negative charges of organic complexes. In the instant case, the references rendered the claimed invention obvious. Additionally, while neither references may expressly disclose that the increase in the charges promote electrostatic interactions, such would have inherently follow the suggested increase in charges.

In summation, while Applicant's arguments have been carefully considered, it is not found persuasive. The rejection is maintained for reason(s) of record.

As presented in the 02/22/2008 office action, the claims are directed to a composition comprising a negatively charged organic complex that is electrostaticially associated with a positively charged antigen, wherein the organic complex is modified to increase the degree of its negative charge and wherein the organic complex comprises saponin and sterol, wherein the positively charged antigen is also modified to increase the degree of its positive charge, and that the composition generates a CTL response when administered to a mammal. The claims later limit the antigen to i) comprise a peptide region, or ii) a protein. The claims require the organic complex to further comprise a phospholipid, which is later limited lipid A or a phosphatidyl glycerol, which is a phosphoglyceride; wherein lipid A is either diphosphoryl lipid A or monophosphoryl lipid A. The claims additionally require the complex to induce a cytotoxic T-lymphocyte response when administered to a mammal.

As mentioned above, Garcon et al. teaches a composition comprising a negatively charged organic complex and a positively charged antigen. The organic complex of Garcon et al., SUV, comprises saponin and sterol. The organic complex of Garcon et al. also comprises a phospholipid. The phospholipids that Garcon et al. teaches include phosphatidyl choline, which is a phosphoglyceride, and monophosphoryl lipid A. The antigen that Garcon et al. teaches is HSV glycoprotein D (gD). HSV glycoprotein D is positively charged protein, which inherently comprise a peptide region. Additionally, the composition of Garcon et al. also induces a cytotoxic T-lymphocyte response when administered to a mammal. [Pages 10-12, in particular.]

While the organic complex of Garcon et al. has been modified to be negatively charged with the addition of MPL, it should be noted that Garcon et al. recognizes that the addition of charges, negative, to stabilize the organic complex. [Page 2, lines 14-15, in particular.] Thus, at the time the invention was made, it would have been prima facie obvious for one of ordinary skill in the art to vary the negative charge of the organic complex. One of ordinary skill in the art at the time the invention was made would have been motivated to do so to optimize the stability of the organic complex. One of ordinary skill in the art, at the time the invention was made, would have had a reasonable expectation of success for doing so because the determination of a workable or optimal range is routinely practiced in the art.

Additionally, it is not readily apparent if in addition to suggesting increasing the negative charge of the organic complex had Garcon et al. also discussed increasing the positive charge of the antigen. However, at the time the invention was made, McFarlan

et al. notes that it is difficult to formulate vaccines with proteins or polypeptides using organic complex because of difficulty in efficiently incorporating such proteins or polypeptides in immunostimulating complex matrixes. [Pages 3-4, in particular.] To circumvent this problem, McFarlan et al. teaches another method of associating antigen with organic complex. The method of McFarlan et al. includes increasing the positive charge of peptides. Specifically, McFarlan et al. teaches adding polyhistidine, which is positively charged, to the peptides. [Lines 5-10, page 5, in particular.] McFarlan et al. also notes that the association between the antigen and the organic complex is important for optimal immune response, including CTL response.

Thus, at the time the invention was made, it would have been prima facie obvious for one of ordinary skill in the art to enhance the association between the positively charged antigen and negatively charged organic complex of Garcon et al. by varying the degree of positive charge on the antigen. One of ordinary skill in the art, at the time the invention was made, would have been motivated to do so to optimize the immune response induced by the antigen and organic complex. One of ordinary skill in the art, at the time the invention was made, would have had a reasonable expectation of success for doing so because the determination of a workable or optimal range is routinely practiced in the art.

As discussed above, it is recognized that Garcon et al. does not explicitly state that the organic complex and the antigen are electrostaticially associated, as set forth in the claim. However, it is noted that Applicant defines “electrostaticially associated” as a reference to the organic carrier and the antigen being linked, bound or otherwise

associated by means which includes electrostatic interaction. [Paragraph bridging pages 9-10 of the specification.] In the instant, Garcon et al. states that the antigen is entrapped with the organic complex. The entrapment or encapsulation of the antigen and organic complex allows the two components to associate with one another. Thus, the composition of Garcon et al. does comprise an antigen and an organic complex that are "otherwise associated" to one another. Additionally, according to Stedman's Medical dictionary, bound is defined as limited, circumscribed; enclosed. Since encapsulation involves enclosure of the antigen within the organic complex, the composition of Garcon et al. does comprise an antigen and an organic complex that are bound to one another. Thus, in view of the insight provided by the specification and the broadest and reasonable interpretation for the term "bound", Garcon et al. does teach a composition comprising an antigen and an organic complex that are "electrostaticially associated" with one another. Furthermore, following the logic of generally chemistry, it logically follows that the addition of positively charged antigens to a negatively charged organic complex would necessary result in an electrostatic association between the two molecules. Applicant is reminded that the "discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable." See MPEP § 2112.

Double Patenting

5. In response to the rejection, Applicant submits that Applicant intend to continue deference any argument or "corrective" action concerning the rejection until allowable subject matter is arrived upon.

Applicant's submission has been considered. However, until the rejection is properly addressed, the rejection is maintained. Below is the double patenting, provisional, rejection.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In *re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory

double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 53-54 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 50 of copending Application No. 10/622470. Although the conflicting claims are not identical, they are not patentably distinct from each other.

The claimed invention is directed to a composition comprising a negatively charged organic complex that is electrostaticially associated with a positively charged antigen, wherein the organic complex is modified to increase the degree of its negative charge and wherein the organic complex comprises saponin and sterol.

The invention claimed in the copending patent application is also directed to a composition comprising a negatively charged organic complex that is electrostaticially associated with a antigen, wherein the organic complex is modified to increase the degree of its negative charge, wherein the organic complex comprises saponin and sterol, and wherein the antigen is on or more polypeptides from a region of Hepatitis C virus selected from a group consisting of Core, E1, E2, NS3, NS4a, NS4b, NS5a and NS5b.

The difference between the two inventions is: the antigen of the copending patent application is limited to Hepatitis C virus selected from a group consisting of Core, E1, E2, NS3, NS4a, NS4b, NS5a and NS5b. Additionally, the specification of the copending patent application provides that the listed antigens are positively charged. In the instant case, the positively charged antigens recited in the claims of the copending patent application is encompassed by the genus of positively charged antigens recited in the instantly claimed invention. The species recited in the copending patent application has anticipated the genus of positively charged antigens. This is an anticipatory type double patenting rejection.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The above rejection is, in part, based on the specification of a previously issued patent, rather than the claims. In support of the use of this material, the examiner notes the following excerpt from MPEP section 804 II(B)(1):

> When considering whether the invention defined in a claim of an application is an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. This does not mean that one is precluded from all use of the patent disclosure.

The specification can always be used as a dictionary to learn the meaning of a term in the patent claim. In re Boylan, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970). The court in Vogel

recognized "that it is most difficult, if not meaningless, to try to say what is or is not an obvious variation of a claim," but that one can judge whether or not the invention claimed in an application is an obvious variation of an embodiment disclosed in the patent which provides support for the patent claim. According to the court, one must first "determine how much of the patent disclosure pertains to the invention claimed in the patent" because only "[t]his portion of the specification supports the patent claims and may be considered." The court pointed out that "this use of the disclosure is not in contravention of the cases forbidding its use as prior art, nor is it applying the patent as a reference under 35 U.S.C. 103, since only the disclosure of the invention claimed in the patent may be examined."

Thus, the courts have held that it is permissible to use the specification in determining what is included in, and obvious from, the invention defined by the claim on which the rejection is based. This is true even where elements are drawn from the specification describing the claimed invention which are not elements in the claim itself.

Conclusion

8. No claim is allowed.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY M. LE whose telephone number is (571)272-0903. The examiner can normally be reached on Monday - Friday, 8 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce R. Campell can be reached on (571) 272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/EMILY M LE/
Primary Examiner, Art Unit 1648

/E. M. L./